DOCUMENT RESUME

ED 176 927 RC 011 637

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TITLE Relational Term Usage in Navajo Children.
PUB DATE Apr 79
NOTE 6p.; Paper presented at the Rocky Mountain Psychological Association Meetings (Las Vegas, Nevada, April, 1979)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Abstraction Levels; American Indian Languages; *American Indians; Bilingualism; Child Development; Children; Cognitive Development; *Concept Formation; Conservation (Concept); Cultural Differences; Developmental Psychology; Elementary Secondary Education; English (Second Language); *Language Research; *Native Speakers; Navajo; *Relationship; Reservations (Indian)
IDENTIFIERS *Navajo (Nation); Piagetian Theory

ABSTRACT

In an experiment designed to determine their use of relational terms, 168 Navajo children aged 5 to adult attempted three relational tasks regarding the concepts of upward, downward, and equality comparison in the areas of mass, number, and continuous quantity. All subjects used the relational terms of "more", "less", and "same" correctly in all three content areas. However, the spontaneous use of the term "same" was significantly greater than that of "more" or "less". The mean number of subjects aged 11 who spontaneously used the term "same" was 22, while the age 11 means for the terms "less" and "more" were 2 and 3, respectively. The Navajo language apparently treats the concepts of "more" and "less" differently from the concept of "same", even though all are absolute concepts. Children whose first language is Navajo may continue to conceptualize in an absolute, non-relational manner even in subsequent uses of English. If the use of relational terms is a predictor of Piagetian conservation acquisition, a "time-lag" in attaining conservation is expected in speakers whose first language is Navajo. (Author/SB)

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ED176927

Paper presented at Rocky Mountain Psychological Association Meetings. Las Vegas, Nevada. April, 1979

RELATIONAL TERM USAGE IN NAVAJO CHILDREN

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ABSTRACT

The purpose of the experiment was to determine the use of relational terms by Navajo children in the content areas of number, mass, and continuous quantity. The subjects were 168 Navajos from an isolated community on the Navajo reservation distributed so that there were 12 males and 12 females at age levels: 5, 6, 7, 9, 11, 13, and adult. Each subject was administered three relational tasks that consisted of a standard object and three comparison objects: upward comparison ("more"), equality comparison ("same"), and downward comparison ("less"). The materials for these objects in the number, mass, and continuous quantity content areas were, respectively: various numbers of spheres, different lengths of wooden rods, different volumes of water. For each task there were serial presentations of the standard object against the three comparisons objects. The subject was asked to describe spontaneously the two presented objects. If the subject did not use a correct relational term spontaneously, the subject was probed by asking, "Are these objects the same or different?" and "Does this object have more, the same, or less ____ than this object?" Subject's relational responses were classified as spontaneous, elicited, probed, erroneous, or other, which were absolute terms used to signify relationships.

The results showed that all subjects used relational terms "more," "less," and "same" correctly with no differences occurring as a function of the content area. Spontaneous usage of "more" and "less" did not differ but both were significantly lower than the spontaneous usage of "same." Use of other terms occurred significantly less often for the relational concept of same. Apparently, the Navajo language treats relational concepts of more and less differently than it does the concept of same, but all are treated as absolute concepts.

It was concluded that children whose first language is Navajo may continue to conceptualize in an absolute, nonrelational manner, even when subsequently communicating in English. Finally, if the use of relational terms predicts Piagetian conservation acquisition, "time-lag" in attaining conservation is expected in Navajo first-language speakers.

RC 011637

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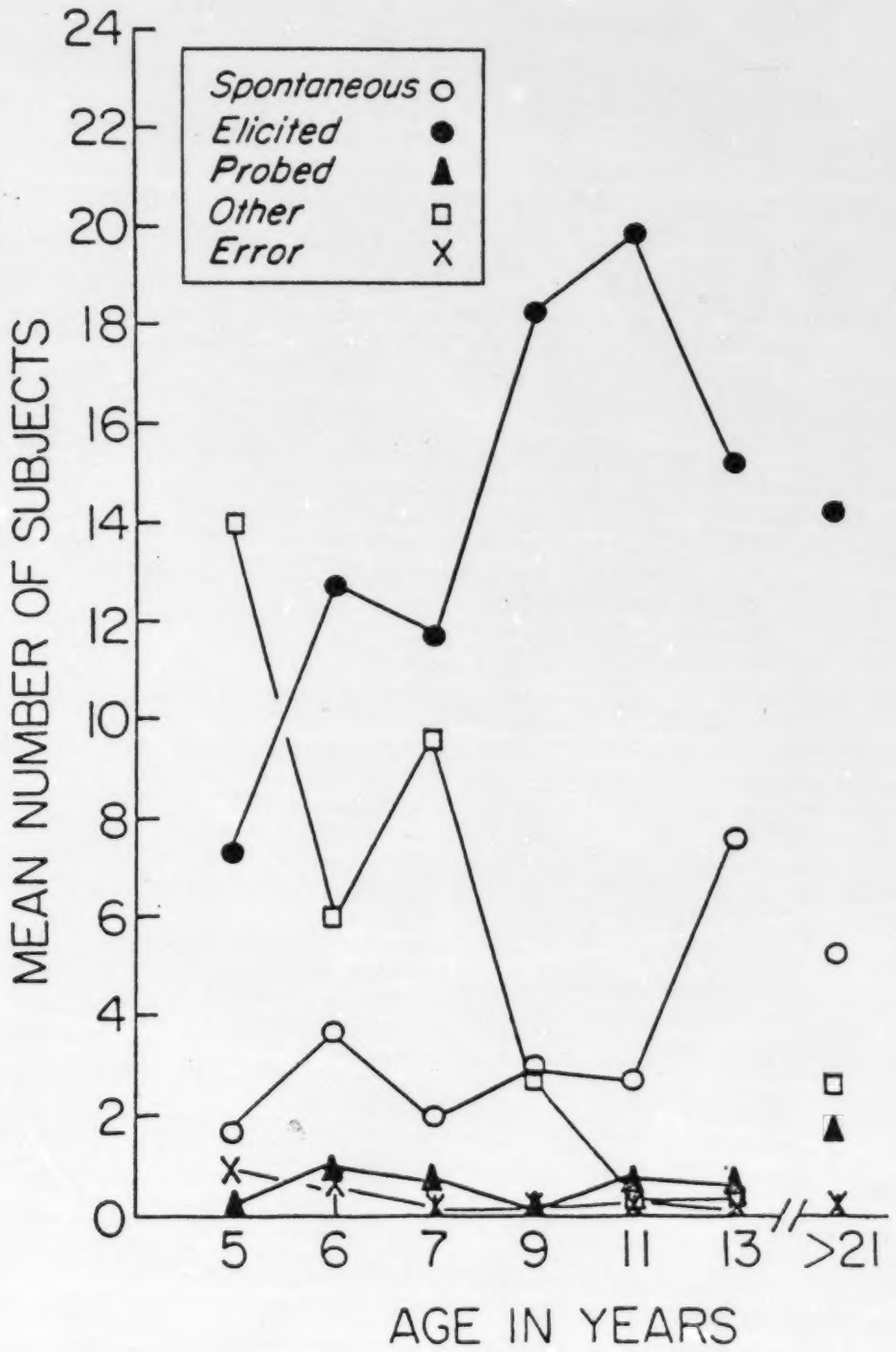

Fig. 1. Mean number of subjects in each age group whose use of relational terms was categorized as spontaneous, elicited, probed, other, or error under the "more" component of the number, mass, and continuous quantity relational tasks.

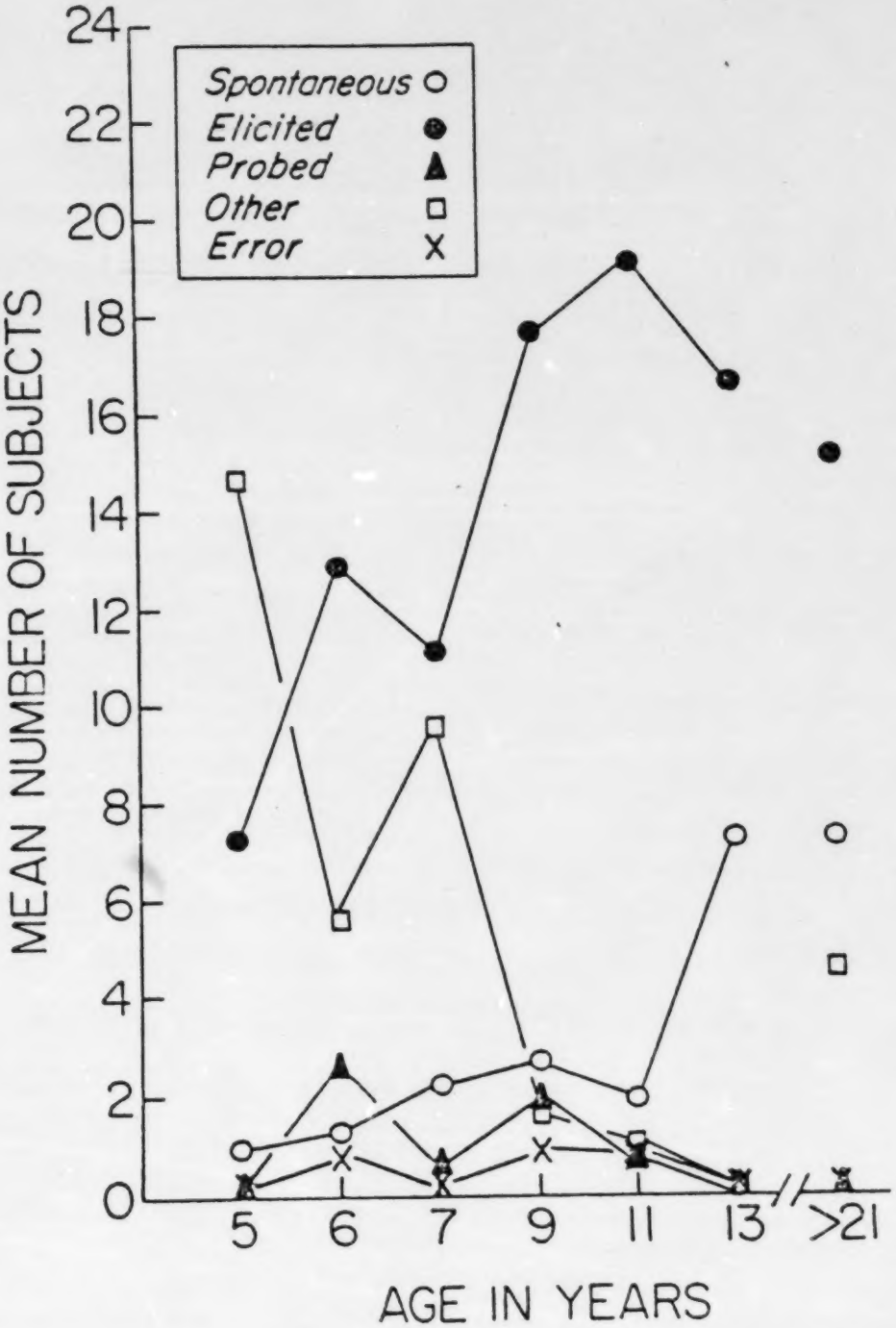

Fig. 2. Mean number of subjects in each age group whose use of relational terms was categorized as spontaneous, elicited, probed, other, or error under the "less" component of the number, mass, and continuous quantity relational tasks.

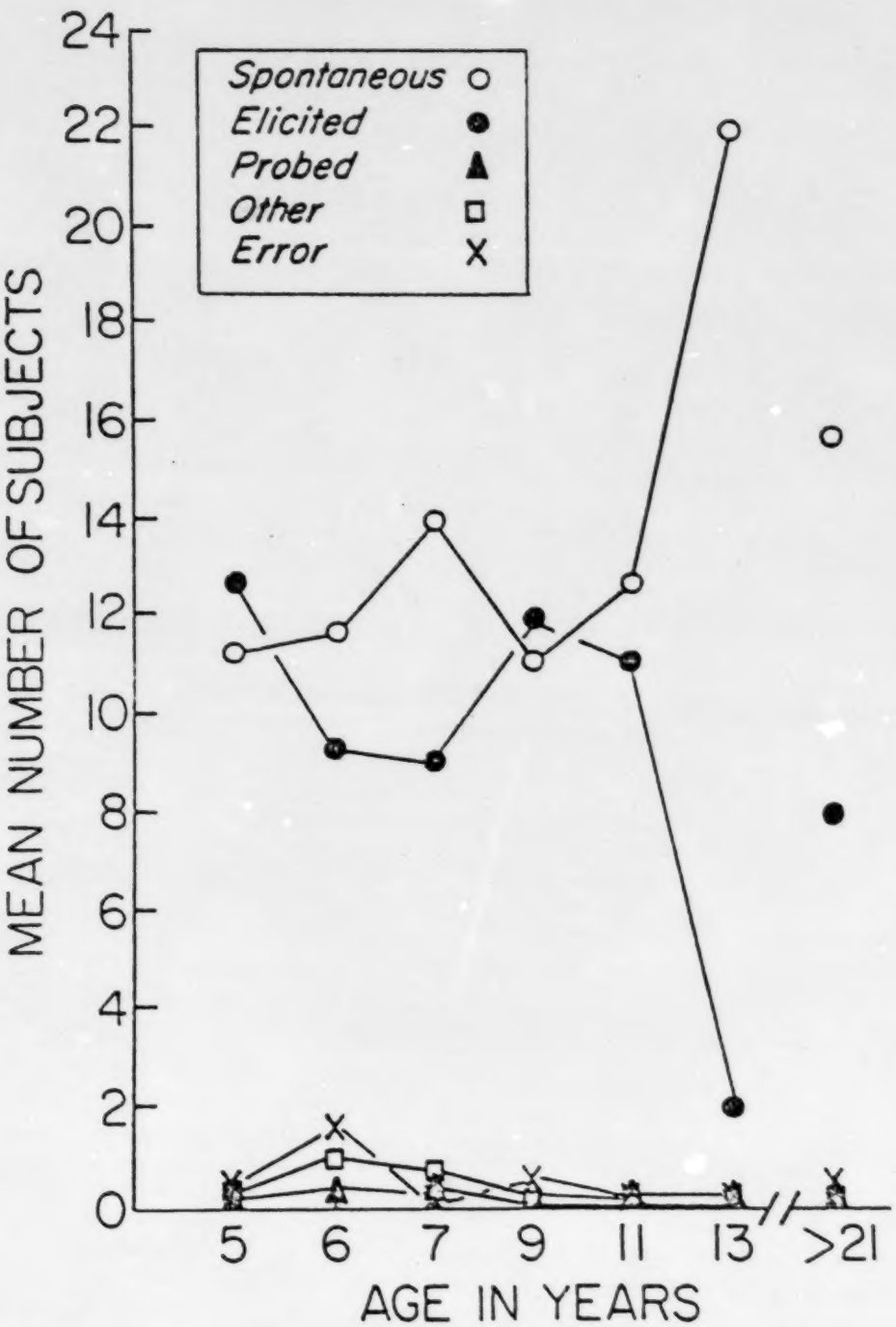

Fig. 3. Mean number of subjects in each age group whose use of relational terms was categorized as spontaneous, elicited, probed, other, or error under the "same" component of the number, mass, and continuous quantity relational tasks.

Table 1. Examples of Navajo words, their approximate English equivalent, and functional usage, which were accepted as signifying the concepts of more, less, or same during the experimental tasks.

Significate	Navajo Word	Approximate English Equivalent	Used Functionally to Describe
More			
	'álááh	big, great	water, mass
	t'óóahayóí	many, much, lots	all substances
	chizht'óóahayóí	lots	wood
	diiłą́'	lots	number of objects
	tą́	lots, many, much	water
	'ayóoda'át'éélέí	a big one	blocks, length
Less			
	'aláaii'	one	number of objects
	a'lch'ídígo	just a little, just a few, small amount	all substances
	a'lchíídí	small amount little bit	water
	'a'łts'íisígo	because it was small, or little	blocks
	ałts'íisí	little, short	blocks
Same			
	'aheełt'éego	they are alike, same, equal	all substances